Ontario

Ministry of Natural Resources

Hon. Alan W. Pope
Minister

John R. Sloan
Deputy Minister

ONTARIO GEOLOGICAL SURVEY

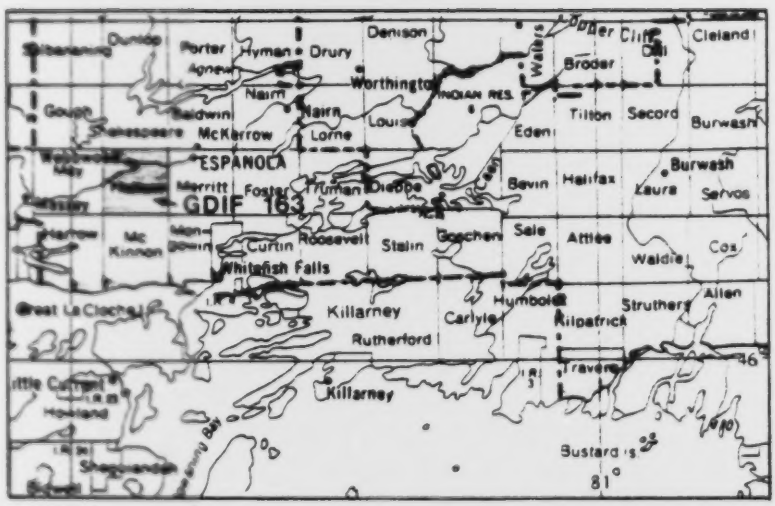
GEOLOGICAL DATA INVENTORY FOLIO

GDIF 163

HALLAM TOWNSHIP

DISTRICT OF SUDBURY

Compiled by the Staff of
the Resident Geologist's Office
Sudbury



LOCATION MAP

Scale 1:1 013 760 or 1 inch to 16 miles

NTS Number 41 I/4, 5

Mining Claim Map Number M909

This project was funded by the Ontario Ministry of Northern Affairs through the Northern Ontario Geological Survey (NOGS) Program.

STATEMENT: This inventory is unedited. Discrepancies may occur for which the Ontario Geological Survey does not assume liability. Information from this source may be quoted if credit is given. Reference to this inventory should be made as follows:

Ontario Geological Survey
1984:Hallam Township,Sudbury District;Ontario Geological Survey,Geological Data Inventory Folio 163, compiled by the staff of the Resident Geologist's office, Sudbury, 18p. and 2 maps.

Original Compilation by: Adlington, Richard, Feb.15, 1984

Date	Page Revised	Revised by

Date	Page Revised	Revised by

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ACCOMPANYING MAPS

Property Location Map – 1 map

Exploration Data Map – 1 map

Map Scale 1: 31 680 or 1 inch to ½ mile

CONVERSION FACTORS FOR MEASUREMENTS IN ONTARIO GEOLOGICAL SURVEY PUBLICATIONS

If the reader wishes to convert imperial units to SI (metric) units or SI units to imperial units the following multipliers should be used:

CONVERSION FROM SI TO IMPERIAL			CONVERSION FROM IMPERIAL TO SI		
SI Unit	*Multiplied by*	*Gives*	*Imperial Unit*	*Multiplied by*	*Gives*
			LENGTH		
1 mm	0.039 37	inches	1 inch	**25.4**	mm
1 cm	0.393 70	inches	1 inch	**2.54**	cm
1 m	3.280 84	feet	1 foot	**0.304 8**	m
1 m	0.049 709 7	chains	1 chain	20.116 8	m
1 km	0.621 371	miles (statute)	1 mile (statute)	**1.609 344**	km
			AREA		
1 cm^2	0.155 0	square inches	1 square inch	**6.451 6**	cm^2
1 m^2	10.763 9	square feet	1 square foot	**0.092 903 04**	m^2
1 km^2	0.386 10	square miles	1 square mile	2.589 988	km^2
1 ha	2.471 054	acres	1 acre	0.404 685 6	ha
			VOLUME		
1 cm^3	0.061 02	cubic inches	1 cubic inch	**16.387 064**	cm^3
1 m^3	35.314 7	cubic feet	1 cubic foot	0.028 316 85	m^3
1 m^3	1.308 0	cubic yards	1 cubic yard	0.764 555	m^3
			CAPACITY		
1 L	1.759 755	pints	1 pint	0.568 261	L
1 L	0.879 877	quarts	1 quart	1.136 522	L
1 L	0.219 969	gallons	1 gallon	**4.546 090**	L
			MASS		
1 g	0.035 273 96	ounces (avdp)	1 ounce (avdp)	28.349 523	g
1 g	0.032 150 75	ounces (troy)	1 ounce (troy)	**31.103 476 8**	g
1 kg	2.204 62	pounds (avdp)	1 pound (avdp)	**0.453 592 37**	kg
1 kg	0.001 102 3	tons (short)	1 ton (short)	**907.184 74**	kg
1 t	1.102 311	tons (short)	1 ton (short)	**0.907 184 74**	t
1 kg	0.000 984 21	tons (long)	1 ton (long)	**1016.046 908 8**	kg
1 t	0.984 206 5	tons (long)	1 ton (long)	**1.016 046 908 8**	t
			CONCENTRATION		
1 g/t	0.029 166 6	ounce (troy)/ ton (short)	1 ounce (troy)/ ton (short)	34.285 714 2	g/t
1 g/t	0.583 333 33	pennyweights/ ton (short)	1 pennyweight/ ton (short)	1.714 285 7	g/t

OTHER USEFUL CONVERSION FACTORS

1 ounce (troy)/ton (short)	20.0	pennyweights/ton (short)
1 pennyweight/ton (short)	0.05	ounce (troy)/ton (short)

One gram(g) per tonne is equivalent to one part per million (1 ppm).

NOTE–Conversion factors which are in bold type are exact. The conversion factors have been taken from or have been derived from factors given in the Metric Practice Guide for the Canadian Mining and Metallurgical Industries published by The Mining Association of Canada in co-operation with the Coal Association of Canada.

DATA SOURCES CHECK LIST

NOTE: The following sources have been searched to compile the data for this area. If no reference data was found the appropriate box is marked 'no'; if reference data was found, the box is marked 'yes'.

All reference data found are included in the following pages. If the box is blank, the data source has not yet been searched. If the box is marked N.A., the source item is Not Applicable to this area and therefore not searched.

	SOURCES OF DATA	Data	Initial
1	Resident Geologist's Office Files	Yes	R.A.
2	Assessment Files Research Office, Toronto	N.A.	R.A.
3	ODM General Index; 7 volumes	Yes	R.A.
4	Catalogue of Airborne Geophysical Surveys (ODM)	No	R.A.
5	ODM Mineral Resources Circulars and OGS Mineral Deposits Circulars	Yes	R.A.
6	ODM Industrial Mineral Reports	Yes	R.A.
7	Bibliography of Post Precambrian Theses - Karrow (ODM MP 1)	No	R.A.
8	Bibliography of Precambrian Theses - Ginn (ODM MP 2)	Yes	R.A.
9	Newspaper Clippings File	Yes	R.A.
10	GSC Index to Publications	Yes	R.A.
11	OGS Index to Published Maps and Reports - MP 77 and Supplements to MP 77	Yes	R.A.
12	OGS Index Maps	Yes	R.A.
13	Source Mineral Deposit Records (O.G.S.) Mineral Occurrences File	Yes	R.A.
14	Author - Subject Articles File	Yes	R.A.
15	Miscellaneous Papers: ODM & OGS	Yes	R.A.
16	ODM Geological Circulars: OGS Study Series, Reports	Yes	R.A.
17	ODM Preliminary Reports: ODM Bulletins	No	R.A.
18	ODM – OGS Open File Reports	Yes	R.A.
19	OGS Northern Ontario Engineering Geology Terrain Studies	Yes	R.A.
20	OGS Aggregate Resources Inventory Papers	No	R.A.
21	OGS Mineral Potential Maps	Yes	R.A.
22	Theses on File, Sudbury	Yes	R.A.
23	Aerial Photographs on File, Sudbury	Yes	R.A.

METALS AND MINERALS REFERENCES LIST

△ anh. . . . . .Anhydrite
△ ank. . . . . .Ankerite
△ anna . . . . . Annabergite
△ ap. . . . . .Apatite
△ arg . . . . . Argentite
△ As . . . . . .Arsenic
△ asp . . . . . .Arsenopyrite
△ asb . . . . . .Asbestos
△ ba. . . . . .Barite
△ be. . . . . .Beryl
△ Bi. . . . . .Bismuth
△ bn . . . . . .Bornite
△ bran . . . . . .Brannerite
△ bruc . . . . . .Brucite
△ Cd . . . . . Cadmium
△ calc. . . . . Calcite
△ carb . . . . . .Carbonate
△ cel . . . . . .Celestite
△ cc. . . . . .Chalcocite
▲ cp. . . . . .Chalcopyrite
△ ch. . . . . .Chert
△ clay . . . . . .Clay
△ Co . . . . . Cobalt
△ cob. . . . . Cobaltite
△ cb. . . . . .Columbite
△ Cu . . . . . .Copper
△ cor . . . . . Corundum
△ dol . . . . . Dolomite
△ ep. . . . . Epidote
△ ery . . . . . Erythrite
△ fel . . . . . .Feldspar
△ fl . . . . . .Fluorite (flurospar)
△ fu. . . . . .Fuchsite
△ gn. . . . . .Galena
△ gt. . . . . .Garnet
△ goe . . . . . .Goethite
△ Au . . . . . Gold
▲ gf. . . . . .Graphite
△ gl . . . . . Gravel
△ gyp. . . . . .Gypsum
△ hem . . . . . Hematite
△ il . . . . . .Ilmenite
△ Fe . . . . . .Iron
△ IF. . . . . Iron Formation
△ jas . . . . . Jasper
△ kaol . . . . . .Kaolinite (kaolin)
△ ky . . . . . Kyanite
△ Pb . . . . . Lead
△ lim . . . . . Limonite
△ Li. . . . . Lithium
△ mgst . . . . . Magnesite
△ mag . . . . . Magnetite
△ mc . . . . . Malachite
△ Mn . . . . . Manganese
△ mb . . . . . Marble
△ mar. . . . . Marcasite
△ ma . . . . . .Marl
△ mi . . . . . Mica
△ ml . . . . . .Millerite
△ mo . . . . . Molybdenite
△ Mo . . . . . .Molybdenum
△ mon . . . . . Monazite
△ ne. . . . . Nephelite (nepheline)
△ nc. . . . . .Niccolite
△ Ni. . . . . Nickel
△ Nb . . . . . .Niobium
△ Pd . . . . . Palladium
△ peat . . . . . .Peat
△ pent . . . . . Pentlandite
△ Pt. . . . . .Platinum
▲ py . . . . . .Pyrite
△ pyl . . . . . Pyrochlore
△ pyrl . . . . . .Pyrolusite
▲ po . . . . . .Pyrrhotite
△ q . . . . . Quartz
△ qcv . . . . .Quartz carbonate vein
△ ra. . . . . .Radioactive minerals
△ RE . . . . . .Rare Earths
△ sd. . . . . Sand
△ sgl . . . . . Sand and gravel
△ ss . . . . . .Sandstone
△ scap . . . . . Scapolite
△ shee . . . . . .Scheelite
△ serp . . . . . Serpentine
△ sh. . . . . .Shale
△ sid . . . . . Siderite
△ si . . . . . .Silica
△ Ag . . . . . .Silver
△ sl . . . . . Slate
△ sm . . . . . .Smaltite
△ sod . . . . . Sodalite
△ spec . . . . . Specularite
△ sp. . . . . .Sphalerite
△ spd . . . . . .Spodumene
△ staur . . . . . .Staurolite
△ stib. . . . . Stibnite
△ st . . . . . .Stone
△ talc. . . . . .Talc
△ Te . . . . . .Tellurium
△ td. . . . . Tetrahedrite
△ th. . . . . .Thorite
△ Th . . . . . .Thorium
△ thuc . . . . . Thucholite
△ ti . . . . . Titanite
△ Ti. . . . . Titanium
△ tour . . . . . .Tourmaline
△ trap . . . . . .Trap rock
△ W. . . . . Tungsten
△ uran . . . . . Uraninite
▲ U . . . . . .Uranium
△ verm . . . . . .Vermiculite
△ Y . . . . . Yttrium
△ Zn . . . . . .Zinc
△ zr. . . . . Zircon

Solid triangles indicate metal and mineral occurrences shown on the accompanying maps.

MINERAL OCCURRENCES

Map Ref. Letter	Name(s)	Mineralization	Source Mineral Deposit Record	References in OGS Mineral Deposits Circulars & OGS Industrial Mineral Reports	Additional References and/or Remarks
A	Dominion Gulf	U	-	-	File 13-B1
B	Kelly Prospect, Keevil Mining Group	cp	Cu 2	-	File 13-A1
C	Madsen Red Lake Gold Mines	cp	-	MRC12, p.277	-
D	Hallam Tp. occurrence, Lot 7, Con.II	cp	-	-	Map P.703
E	Hallam Tp. occurrence, Lot 10, Con. VI	cp	-	-	Map P.703
F	Hallam Tp. occurrence, Lot 10,11 Con.IV	cp,py	-	-	Map P.703
G	Hallam Tp. occurrence, Lot 2, Con.II	cp	-	-	Map P.703
H	Hallam Tp. occurrence, Lot 6, Con.VI	cp,py	-	-	Map P.703
I	Hallam Tp. occurrence, Lot 6, Con.VI	cp	-	-	Map P.703

TYPE OF WORK		Numbers below represent the year in which the work was done, e.g., 68 for 1968.																			
EXPLORATION DATA filed at the RESIDENT GEOLOGIST'S OFFICE SUDBURY COMPANY/AUTHOR (file number)		GEOLOGICAL	GEOCHEMICAL	TRENCHING, STRIPPING	DRILLING	ASSAY DATA	UNDERGROUND WORK	PROSPECTUS, NOTES, CORRESPONDENCE	AIRBORNE MAGNETOMETER	AIRBORNE ELECTROMAGNETIC	AIRBORNE RADIOMETRIC	GROUND MAGNETOMETER	GROUND ELECTROMAGNETIC	GROUND RADIOMETRIC	INDUCED POLARIZATON	SELF POTENTIAL	RESISTIVITY			
1	Aggressive Mining Ltd.				69	69															
2	Alexander, T. (Moncrieff Syndicate)				68																
3	Cable Copper Mines Ltd.			57[1]	57			78				57					57[1]				
4	Consolidated Bellekeno Mines Ltd.				67 68	68															
5	Delcan Minerals Ltd.			70[1]																	
6	Dominion Gulf Co. Ltd.	54												54							
7	International Cobalt & Silver Mining Co. Ltd.				55																
8	Jarvis, P. R.			54 55	55																
9	Keevil Mining Group (Francque, J. M.)											66	66			66					
10	Kelly Prospect			-16																	

GDIF FORM NO. 2

HALLAM TOWNSHIP

TYPE OF WORK		Numbers below represent the year in which the work was done; e.g., 68 for 1968.																		
EXPLORATION DATA filed at the RESIDENT GEOLOGIST'S OFFICE SUDBURY COMPANY/AUTHOR (file number)		GEOLOGICAL	GEOCHEMICAL	TRENCHING, STRIPPING	DRILLING	ASSAY DATA	UNDERGROUND WORK	PROSPECTUS, NOTES, CORRESPONDENCE	AIRBORNE MAGNETOMETER	AIRBORNE ELECTROMAGNETIC	AIRBORNE RADIOMETRIC	GROUND MAGNETOMETER	GROUND ELECTROMAGNETIC	GROUND RADIOMETRIC	INDUCED POLARIZATON	SELF POTENTIAL	RESISTIVITY			
11	Madsen Red Lake Gold Mines Ltd.		-69																	
12	New Minda Scotia Mines Ltd. (Andover Mining & Exploration, Ltd.)																57			
13	Pleasant Valley Mines Ltd.					65		65					65?[1]							
14	Prosco Ltd.							57												
15	Toland, E.			72																

[1] No Data

GDIF FORM NO. 2

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth	Initial Dip of Hole	Thickness of Overburden	Total Length of Hole	Mineralization Noted in Log	Assay Data Included for
			Degrees	Degrees	Feet	Feet			
1	Aggressive Mining	AW-1	1969	331	54	75	1025	py,cp	-
2		AW-4	1969	332	55	47	1479	py,po,cp	Cu,Ni,Au,Ag
3	Alexander, T.	MM-1	1968	330	50	52	257	py	-
4	Cable Copper Mines	7	1957	142	45	5	303	py,cp	-
5	Cons. Bellekeno Mines	1	1967	180	45	16	250	po,cp	Cu,Au
5a		2	1968	180	45	28	245	cp	Cu,Au
5b		3	1968	180	45	23	250	cp	Cu
5c		4	1967	180	45	20	333	po	Cu
5d		5	1968	180	45	34	225	py,po	-
5e		6	1968	180	45	18	335	py,po,cp,gf	-
5f		7	1968	180	45	34	325	-	-
6	Int. Cobalt & Silver Mining	1	1955?	N17W	?	No	Data		
6a		2	1955?	S32E	?	No	Data		
6b		S7	1955	N20W	45	4	357	-	-
7	Jarvis, P. R.	1E	1955	N	45	3	170	-	-
7a		2E	1955	S	45	5	130	-	-
7b		3E	1955	S	45	3	100	-	-
7c		1A	1955	S	45	8	500	-	-
7d		2A	1955	S	45	12	500	-	-
8	Madsen Red Lake Gold Mine	6 Holes,	3177 feet.	No	other	data			
9	Unknown	?	?	N	No	Data.	Shown on	Map P.703	
10	Unknown	?	?	N	No	Data.	Shown on	Map P.703	

GDIF FORM NO. 3

HALLAM TOWNSHIP

AIRBORNE GEOPHYSICAL SURVEY DATA

No.	By For	Type of Survey	Flight Altitude	Flight Line Direction	Flight Line Spacing

GDIF FORM NO. 4

GEOCHEMICAL SURVEY DATA

Map Sample Site Reference Number	Type of Survey	Analysis For	By	Reference

GDIF FORM NO.5

MISCELLANEOUS DATA

AGE DATING

Site	Method	Material	Reference	Result

NEWSPAPER CLIPPINGS FILE

NOTE: A file of newspaper clippings about the companies listed below, who have worked in this area, is maintained in the Regional/Resident Geologist's Office.

McIntyre Porcupine (Pax Group)
Northern Miner Sept.28, 1967
Northern Miner Nov.16 , 1967

Consolidated Bellekeno Mines
Northern Miner Jan.4, 1968
Northern Miner Feb.8, 1968
Northern Miner Mar.14,1968

Moncrieff Uranium Mines
Northern Miner Jan.9, 1969

ODM GENERAL INDEX SEARCH

Words searched:

AGGRESSIVE MINING
ALEXANDER, T.
ANDOVER MINING & EXPLORATION
CABLE COPPER MINES
CLEVELAND COPPER CORP.
CONSOLIDATED BELLEKENO MINES
DELCAN MINERALS
DOMINION GULF
HALLAM TP.
INTERNATIONAL COBALT & SILVER MINING CO.
JARVIS, P. R.
KEEVIL MINING GROUP
KELLY PROSPECT
MADSEN RED LAKE GOLD MINES
MONCRIEFF SYNDICATE
PLEASANT VALLEY MINES
TOLAND, E.

Index Volume	Listing:	Report Volume	Part	Page
6	DELCAN MINERALS LTD. Incorporated	65	1	33
1	HALLAM TP., Sud. Pulp mills. See Webbwood Rocks. See Espanola			

SELECTED REFERENCES

Author	Date	Title	Reference	Map Scales and/or Report Pages
		REGIONAL GEOLOGICAL COMPILATION MAPS		
Card, K. D.	1971	Panache Lake Area, West Part	O.D.M. Map P.668	1"=1 mile
	1978	Sudbury-Manitoulin Area	O.G.S. Map 2360	1"=2 miles
Card, K. D., & Lumbers, S. B.	1974,75	Sudbury-Cobalt	O.G.S. Map 2361	1"=4 miles
Thomson, J. E.	1961,68	Espanola Sheet	O.D.M. Map P.105	1"=2 miles
		GEOPHYSICAL MAPS		
Gupta, V. K.	1981	Bouguer Gravity and Generalized Geological Map, Sudbury Area, Sudbury-Onaping Lake Area	O.G.S. Map P.2482	1:100,000
O.D.M.-G.S.C.		Aeromagnetic Maps		
	1965	Espanola	1523G	1"=1 mile
	1965	Whitefish Falls	1522G	1"=1 mile
O.D.M.	1952	Hallam Township	Sudbury File No. A-61	1"=¼ mile
O.D.M.-G.S.C.	1965	Sudbury, Ontario	7067G	1"=4 miles
O.G.S.	1976	Uranium Reconnaissance Program Airborne Gamma Ray Spectrometer Survey. Geophysical Series	Map P.1610	1:250,000
		SURFICIAL, PLEISTOCENE, TERRAIN ENGINEERING		
Dept of Energy, Surveys & Mapping Branch	1975	Topographic Map, Whitefish Falls		1:50,000
	1975	Topographic Map, Espanola		1:50,000
Gartner, J. F.	1978	N.O.E.G.T.S. Data Base Map, Espanola	O.G.S. Map 5002	1:100,000
	1980	N.O.E.G.T.S. Espanola Area	Study 99	

GDIF FORM NO.9

SELECTED REFERENCES

Author	Date	Title	Reference	Map Scales and/or Report Pages
		MINERAL POTENTIAL MAPS		
Springer, J.	1977	Ontario Mineral Potential, Northern Part of Sudbury Sheet and Part of North Bay Sheet	O.G.S. Map P.1512	1:250,000
		GEOCHEMICAL		
		No Data Available, Feb.15, 1984		
		GEOLOGICAL REPORTS AND MAPS		
Card, K. D.	1975	Geology of the Panache Lake Area, Dist. of Sudbury and Manitoulin	O.F.R.5123	
	1976	Espanola-Whitefish Falls Area, District of Sudbury, Ont.	O.D.M. GR131	
	1976	McGregor Bay-Bay of Islands, Districts of Sudbury and Manitoulin	O.D.M. GR138 O.D.M. Maps 2316 2317 2318	 1"=½ mile 1"=½ mile 1"=½ mile
	1978	Sudbury-Manitoulin Area, Districts of Sudbury and Manitoulin	O.D.M. GR166 O.D.M. Map 2360	 1"=2 miles
Card, K. D., Innes, D. G. and Debicki, R. L.	1974	Stratigraphy, Sedimentology, Huronian Supergroup of Sudbury-Espanola Area	O.F.R.5107	
Card, K. D., Palonen, P., Fox, J.	1968	Bay of Islands-McGregor Bay Area McGregor Bay Sheet (West Half)	O.D.M. Map P.442	1"=¼ mile
Kindle, E. D.	1936	Gold Occurrences of Ontario East of Lake Superior	G.S.C. Mem.192	

GDIF FORM NO.9

SELECTED REFERENCES

Author	Date	Title	Reference	Map Scales and/or Report Pages
Moore, E. S.	1929	Ore Deposits Near The North Shore of Lake Huron	O.D.M.AR38, pt.7	pp.39-46
O.G.S. & Mineral Resources Branch	1982	Mineral Potential Map of Ontario Southern Sheet Magnetic Compilation Map Geological Compilation Map 2197	O.F.R.5328	 1"=16 miles 1"=16 miles 1"=16 miles
Robertson, J. A.	1968	Uranium and Thorium Deposits of Northern Ontario	O.D.M. MRC9	p.85
Robertson, J. A., Siemiatkowska, K. M.	1971	May and Hallam Townships, in	O.D.M. MP49, pt.23	pp.81-85
Robertson, J. A., Siemiatkowska, K. M.	1971	Hallam Township	O.D.M. Map P.703	1"=½ mile
Rickaby, H. C.	1935	Notes on Mongowin Township and Vicinity	O.D.M. AR44, pt.7	
Roscoe, S. M.	1969	Huronian Rocks and Uraniferous Conglomerates	G.S.C. Paper 68-40	205p.
Shklanka, R.	1969	Copper, Nickel, Zinc and Lead Deposits of Ontario	MRC12	pp.247, 277
Yundt, S. E., et al	1983	Industrial Minerals of Ontario	O.G.S. Map P.2591	1:500,000
		JOURNAL ARTICLES, THESES, TECHNICAL REPORTS		
Bain, G. W.	1927	Geology and Problems of the Webbwood Area, Canada. Ph.D. Col.	MP2	p.8
Card, K. D.	1959	The Uranium Bearing Huronian Sediments of the Sudbury District. B.Sc. Queen's.	MP2	p.12

SELECTED REFERENCES

Author	Date	Title	Reference	Map Scales and/or Report Pages
Casshyap, S. M.	1966	Sedimentary Petrography and Stratigraphy of the Huronian Rocks, South of Espanola, Ontario. Pts. 1 and 2. Ph.D. Western.	Sudbury Theses File, No.2	
Chandler, F. W., Young, G. M., Wood, J.	1969	Diaspore in Early Proterozoic Quartzites (Lorrain Formation) of Ontario	Can. J. Earth Sci. Vol.6	pp.337-346
Lang, A. H. et al	1962	Canadian Deposits of Uranium and Thorium	G.S.C. Econ. Geol. Series 16 (2nd Ed.)	p.263
Long, D. G. F.	1978	Depositional Environments of a thick Proterozoic sandstone; the (Huronian) Mississagi Formation of Ontario, Canada.	Can. J. Earth Sci., Vol.15	pp.190-206
Lindsay, D. A.	1969	Glacial Sedimentology of the Precambrian Gowganda Formation, Ontario, Canada	Geol. Soc. Am. Bull., 80	pp.1685-1702
McLennan, S. M., Fryer, B. J. Young, G. M.	1979	The geo-chemistry of the carbonate-rich Espanola Formation (Huronian) with emphasis on rare earth elements	Can. J. Earth Sci., Vol.15	pp.230-239
Palonen, P. A.	1971	Stratigraphy and Deformational Environment of the Mississagi Fm., Ont. M.Sc., Calgary	Sudbury Theses File No.18	
Quirke, T. T.	1915	Geology of Espanola District, Ontario. Ph.D., UC.	MP2	p.38
Schenk, P. E.	1965	Depositional Environment of the Gowganda Formation (Precambrian) at the south end of Lake Timagami, Ontario	J. Sed. Pet., Vol.135	pp.309-318
Siemiatkowska, K. M.	1970	Bibliography of Huronian Geology Covering the Region from Sault Ste. Marie to the Grenville Front	Sudbury Theses File	

GDIF FORM NO.9

SELECTED REFERENCES

Author	Date	Title	Reference	Map Scales and/or Report Pages
Thachuk, N. M.	1960	The Origin of the Gowganda Banded Argillite. B.A.Sc., UT.	MP2	p.44
Wright, J. D.	1935	The Age of Some Granite Batholiths North of Lake Huron and the Genetic Relations of the Arsenical Gold Ores to the Keweenawan Granites. Ph.D., UT.	MP2	p.48
Young, G. M.	1973	Origin of the carbonate-rich Early Proterozoic Espanola Formation, Ontario, Canada	Geol. Soc. Am. Bull., Vol.84	p.135-160
	1981	The Early Proterozoic Gowganda Formation, Ontario Canada	Earth's Pre-Pleistocene Glacial Record. Cambridge University Press.	pp.807-812

SELECTED REFERENCES

Author	Date	Title	Reference	Map Scales and/or Report Pages

GDIF FORM NO.9

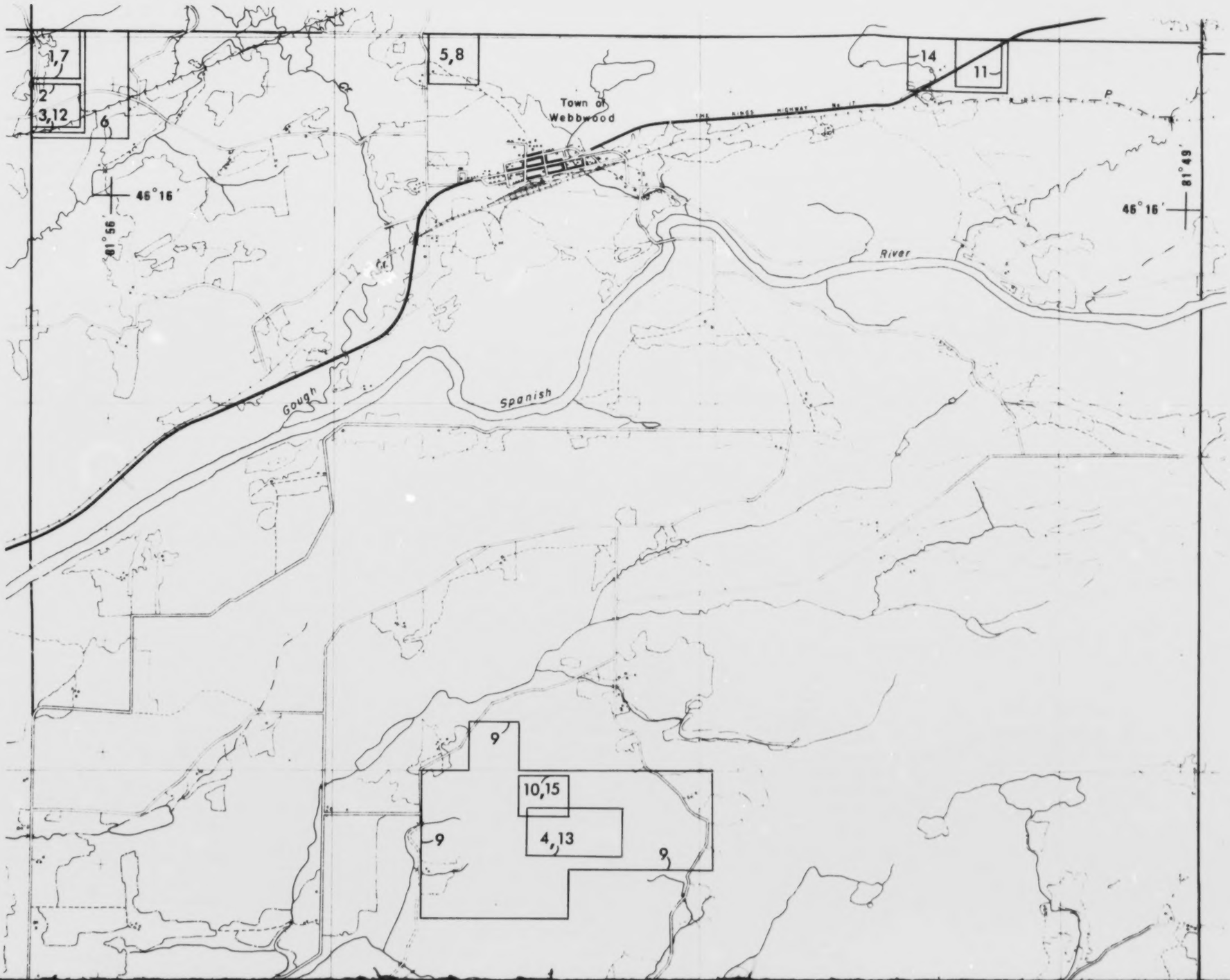
NOTES AND ADDENDA

Aerial Photographs Index

Scale 1" = ¼ mile

Year	Roll	Line	Numbers
1959	17	4611	42-48
	17	4610	14-20
	16	4609	176-182
	54	4609	85-87
	16	4608	142-145
	54	4608	116
1946	14	165	5-7
	13	166	5-12
	11	167	7-13
	10	168	6-11

GDIF FORM NO.10



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GEOLOGICAL DATA INV

(Map 1

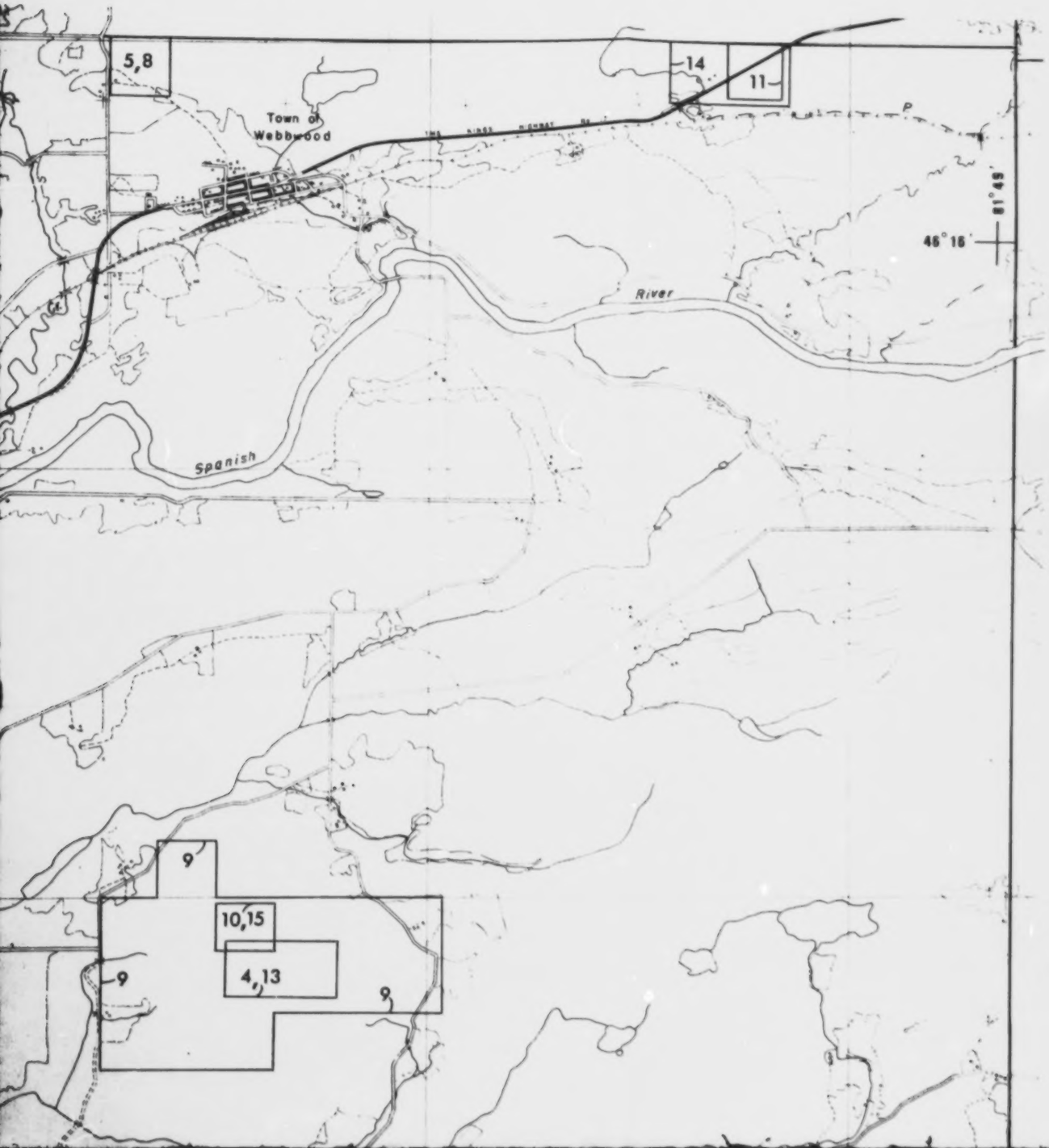
HALLAM

DISTRICT OF

Scale 1:

Mile 0.5 0

Kilometre 0.5 0



Ontario

Ministry of Natural Resources

Hon. Alan W. Pope
Minister

John R. Sloan
Deputy Minister

ONTARIO GEOLOGICAL SURVEY

PROPERTY LOCATION MAP

GEOLOGICAL DATA INVENTORY FOLIO 163

(Map 1 of 2)

HALLAM TOWNSHIP

DISTRICT OF SUDBURY

Scale 1:31 680

Mile 0.5 0 0.5 1 Mile

Kilometre 0.5 0 0.5 1 Kilometre

(Map

HALLAM

DISTRICT

Sca

Mile 0.5 0

Kilometre 0.5 0

River

Gough

Spanish

9

10,15

4,13

9

9

46° 12'

81° 56'

Lee Valley

La Cloche

46° 12'

81° 49'

EXPLORATIO

Reference numbe
See listing in tex

Small area of exp

(Map 1 of 2)

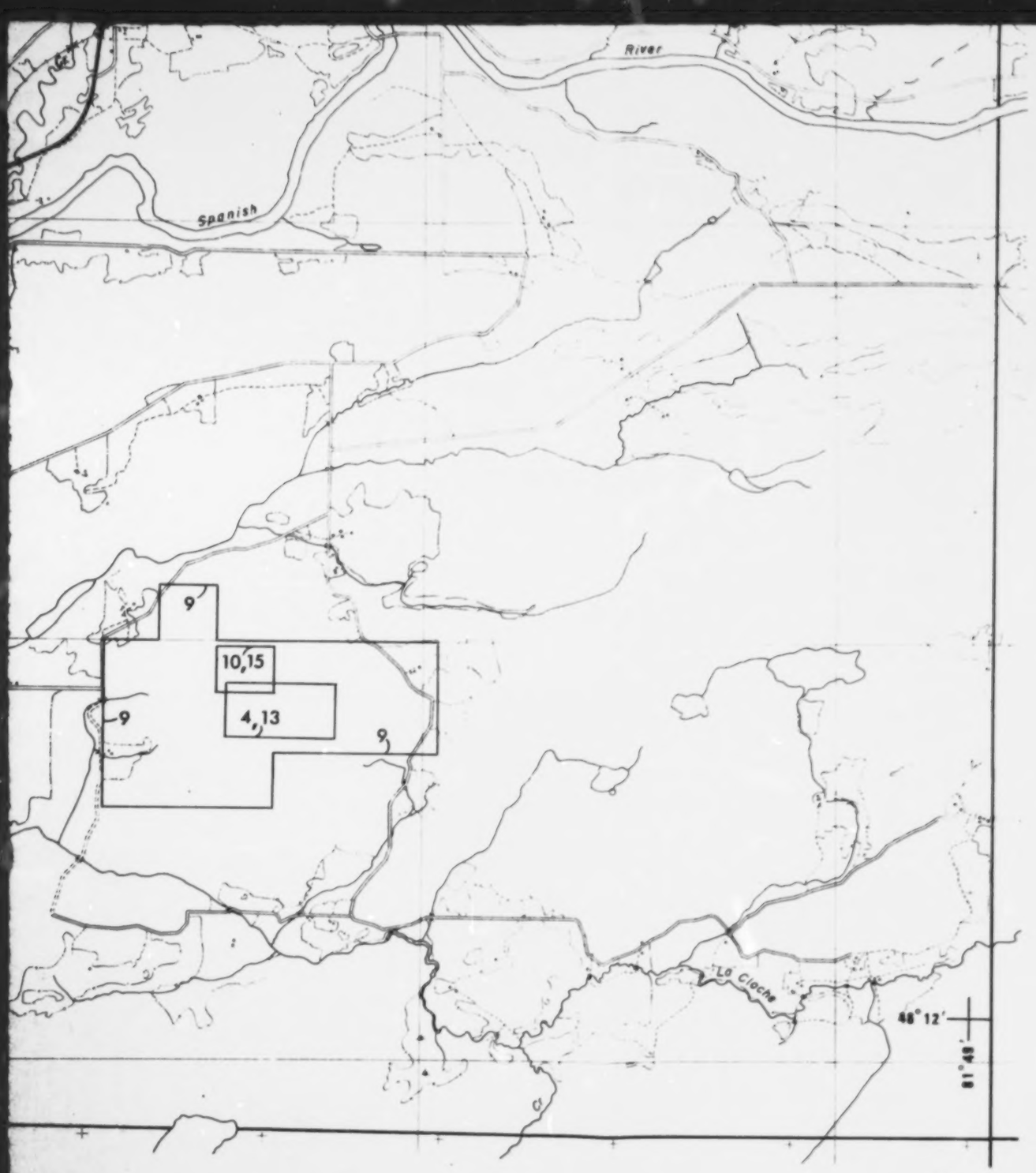
HALLAM TOWNSHIP

DISTRICT OF SUDBURY

Scale 1:31 680

Mile 0.5 0 0.5 1 Mile

Kilometre 0.5 0 0.5 1 Kilometre



EXPLORATION DATA FILE AREAS

Reference number is always inside work area outlined. See listing in text pages.

Small area of exploration.

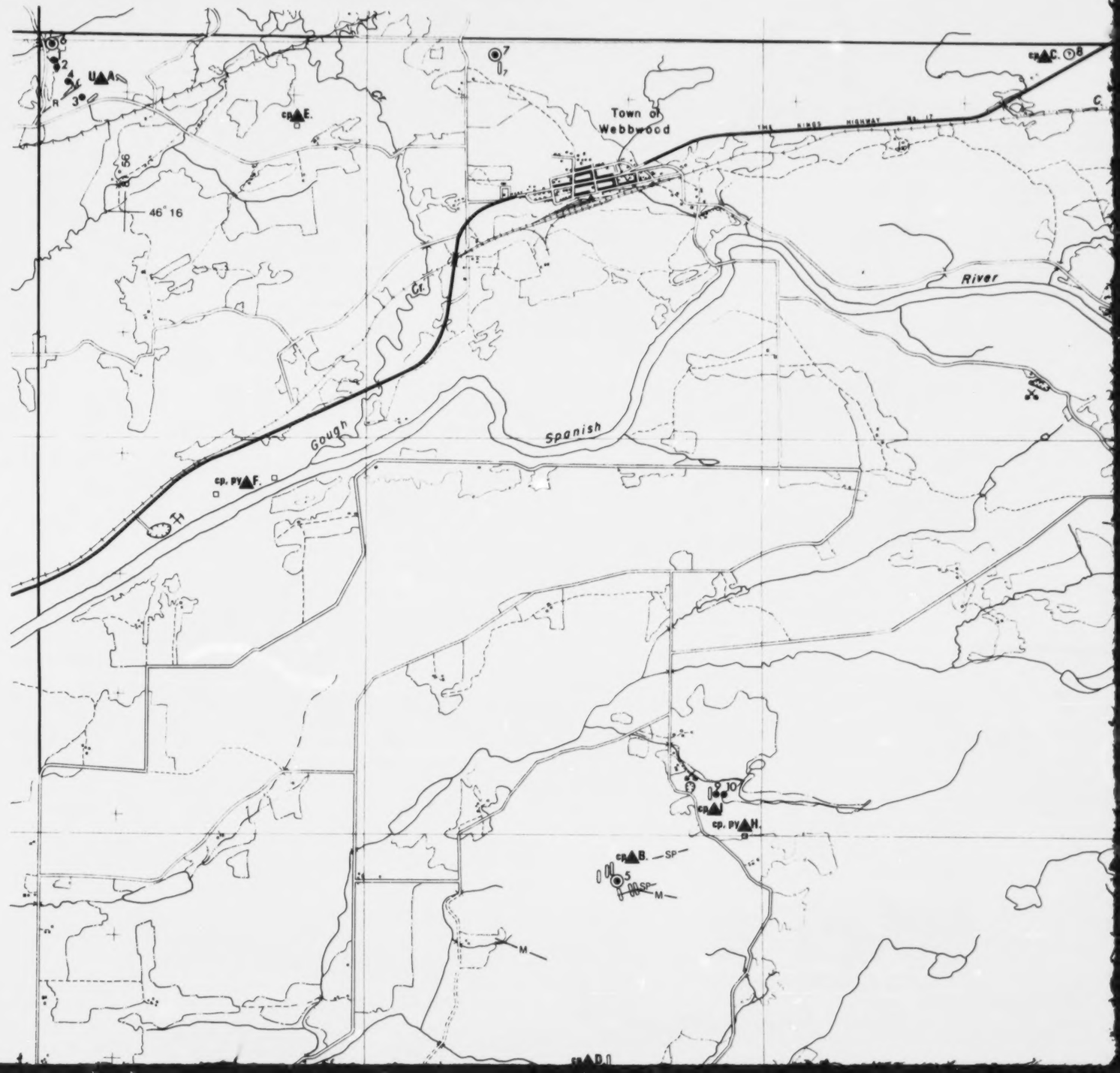
TYPES OF DATA SHOWN ON THIS MAP

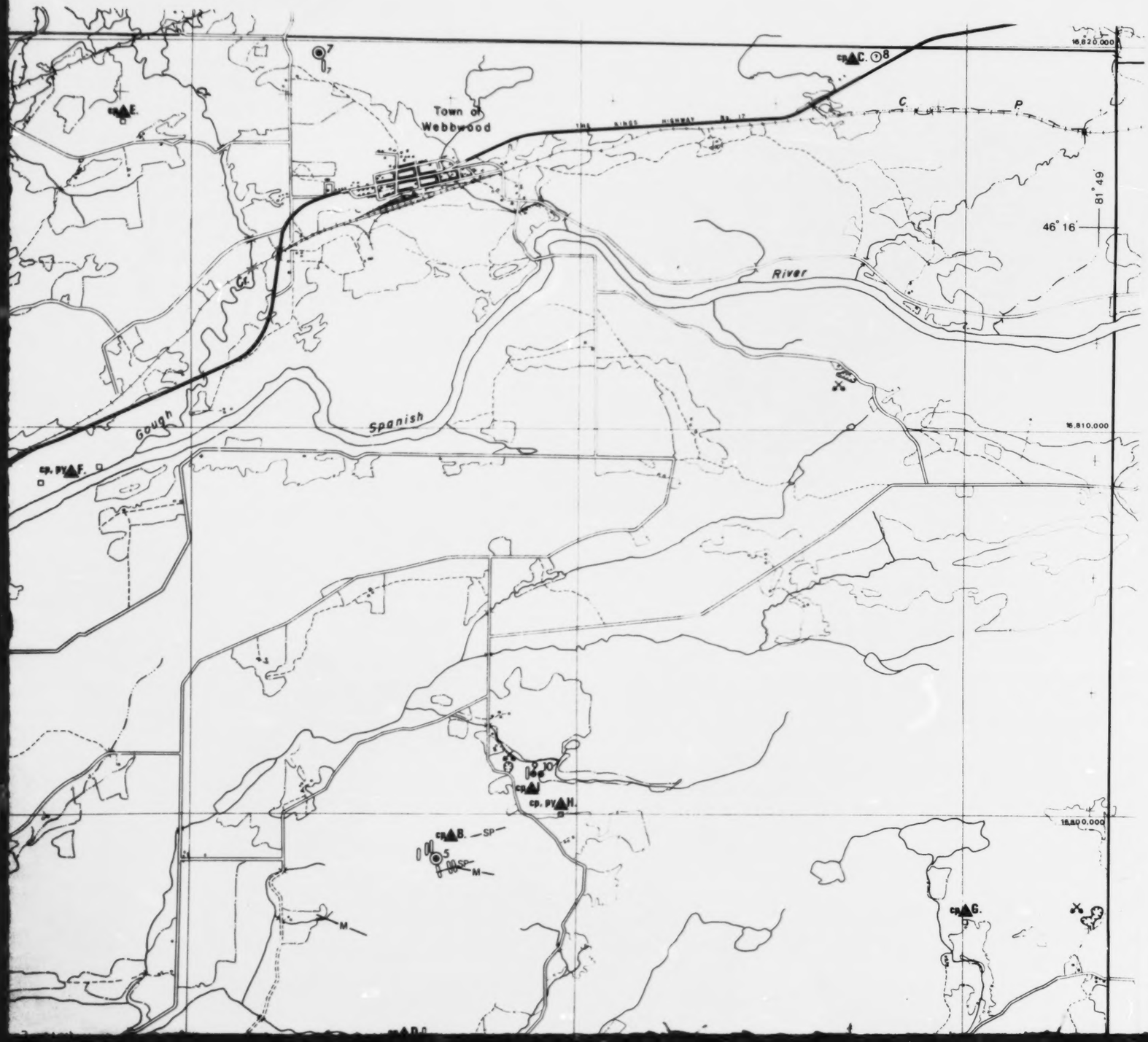
GEOCHEMICAL AND GEOCHRONOLOGICAL DATA

- ☐ Geochemical sample site, with reference number
- ☐ Area of geochemical sampling, with reference number
- ☐ Age dating material sampling site, with reference number
- ☐ GC — **Geochemical Anomaly**
- ☐

GEOPHYSICAL ANOMALIES

- ☐ AM — Airborne Magnetometer Anomaly
- ☐ Airborne Electromagnetometer Anomaly
  Length of anomaly along flight line
- ☐ Airborne Electromagnetometer Anomaly.
  Location of anomaly along flight line
- ☐ Airborne Electromagnetometer Anomaly
  Conductor Axis: definite, probable, possible
- ☐ ARA — Airborne Radiometric Anomaly
- ☒ M — Ground Magnetometer Anomaly
- ☐ VL — Ground Electromagnetometer Anomaly
  (VL - Vertical Loop; HL - Horizontal Loop;
  VLF - Very low freq; Turam; JEM -
  Crone EM-16; L - Long Wire)
- ☐ RA — Ground Radiometric Anomaly
- ☐ IP — Induced Polarization Anomaly
- ☒ SP — Self Potential Anomaly
- ☐ AFMAG — Audio-frequency magnetometer anomaly
  (total intensity)
- ☒ R — Resistivity Anomaly
- ☐ GR — Gravity Anomaly
- ☐





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Ontario

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Deputy Minister

ONTARIO GEOLOGICAL SURVEY

EXPLORATION DATA MAP

GEOLOGICAL DATA INVENTORY FOLIO 163

(Map **2** of **2**)

HALLAM TOWNSHIP

DISTRICT OF SUDBURY

Scale 1:31 680

Mile 0.5 0 0.5 1 Mile

Kilometre 0.5 0 0.5 1 Kilometre

GEOLOGICAL AND MINING SYMBOLS

TYPES OF DATA SHOWN ON THIS MAP

MINERAL OCCURRENCES

- ☒ cp A. — Mineral occurrence at surface, with reference letter
- ☐ Au A. 84' — Mineral occurrence with shaft, depth given with reference letter
- ☐ Ag A. — Mineral occurrence reported but exact location uncertain, with reference letter
- ☐ cp A. — Mineralized Float with reference letter
- ☐

DRILL HOLES

- ☒ ●² — Location of single drill hole, with reference number
- ☒ ◉² — Location of closely spaced group of drill holes, with reference number

GEOPHYSICAL ANOMALIES

- ☐ AM — Airborne Magnetometer Anomaly
- ☐ Airborne Electromagnetometer Anomaly
  Length of anomaly along flight line
- ☐ Airborne Electromagnetometer Anomaly.
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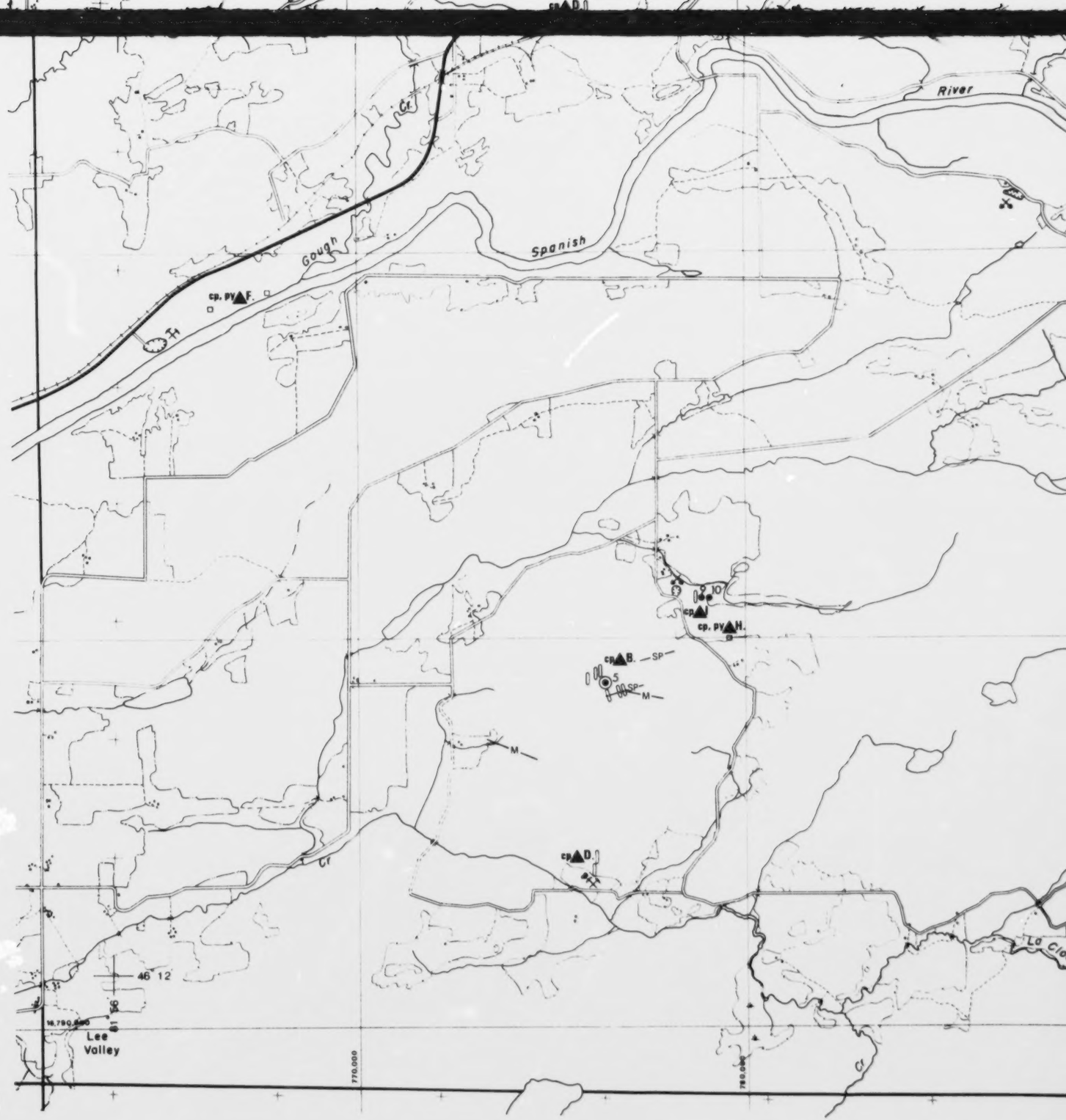
- ☒ SP — Self Potential Anomaly
- ☐ AFMAG — Audio-frequency magnetometer anomaly
  (total intensity)
- ☒ R — Resistivity Anomaly
- ☐ GR — Gravity Anomaly
- ☐

MISCELLANEOUS DATA

- ☒ Trenching, pit
- ☐ Adit
- ☒ Open pit
- ☐ Multiple trenches, pits
- ☒ Rock quarry
- ☒ Sand and/or gravel pit
- ☐

NOTE: Consult the text that accompanies this map for pertinent lists of data, references, and abbreviations.

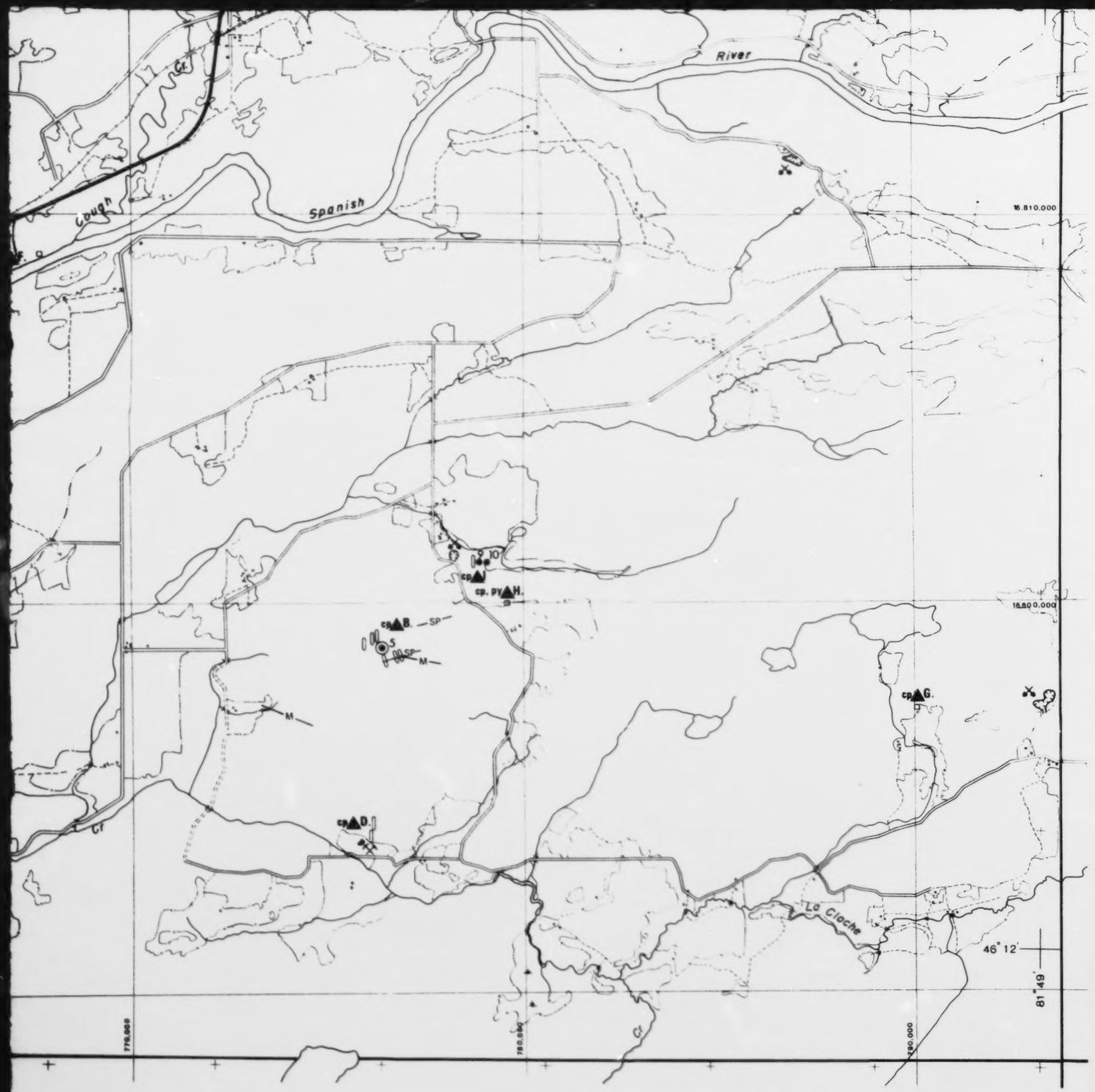


GEOLOGICAL DATA INVENTORY FOLIO 163

(Map 2 of 2)

HALLAM TOWNSHIP

DISTRICT OF SUDBURY



Scale 1:31 680

Mile 0.5 0 0.5 1 Mile

Kilometre 0.5 0 0.5 1 Kilometre

GEOLOGICAL AND MINING SYMBOLS

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- ☐ Au◪A. 84' — Mineral occurrence with shaft, depth given with reference letter
- ☐ Ag△?A. — Mineral occurrence reported but exact location uncertain, with reference letter
- ☐ cp▬A. — Mineralized Float with reference letter
- ☐ ▭

DRILL HOLES

- ☒ ●² — Location of single drill hole, with reference number
- ☒ ◉² — Location of closely spaced group of drill holes, with reference number
- ☒ (?)² — Drill hole, exact location uncertain, with reference number.
- ☐ ◡ — Property with underground drill holes in this general area, with reference number
- ☐ ○² — Property with drill holes which have not been plotted on map, with reference number
- ☐ ⊕² — Reverse Circulation Drill Hole; Churn drilling, with reference number
- ☐ ▭